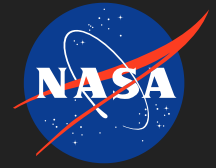


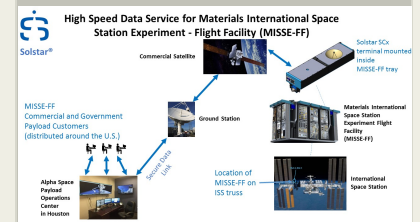
High Speed Data Capability to Increase the Utilization of the Materials International Space Station Experiment (MISSE-FF) Flight Facility, Phase I

Completed Technology Project (2017 - 2017)



Project Introduction

Solstar's innovation addresses SBIR RFP Subtopic H8.01 ISS Utilization and Microgravity Research, whereby NASA is soliciting "capabilities that will continue to enhance improvements to existing ISS research and support hardware, ...that promote commercial enterprise ventures ...; Specifically, NASA is soliciting mid-TRL space technology experiments to fly on a platform mounted on the outside of the ISS called MISSE-FF (Materials International Space Station Experiment Flight Facility). This project supports NASA's goals the commercialization of LEO spaceflight, by completing one more commercial component - communications - to the chain of commercial capabilities. The proposed communications system can also serve other payloads (at NASA's choice) and is could be a pathfinder for other spacecraft beyond ISS. Solstar's innovation meets the objectives of the subtopic by proposing to provide economical, commercial, high speed data services (up to 60Mb) for MISSE-FF's commercial, NASA, and Non-NASA payload customers. Solstar's innovation meets the objectives of the subtopic by providing a commercial, dedicated short burst data services for MISSE-FF's industrial, NASA, and Non-NASA payload customers. Some MISSE payload customers (especially industrial), want a more efficient way to interact with their payloads than TDRSS (Tracking and Data Relay Satellites). Solstar is teamed with Alpha Space, the owner of MISSE-FF. Alpha Space and NASA have a cooperative agreement to attract more commercial and non-NASA customers for MISSE-FF. Alpha Space and its customers believe Solstar's proposed commercial high speed data services will improve how customers interact with their experiments on MISSE-FF. MISSE's industrial partners are especially interested in being able to interact with their proprietary research through a more direct means, more often and consistently



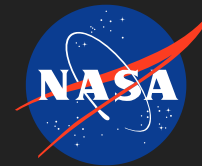
High Speed Data Capability to Increase the Utilization of the Materials International Space Station Experiment (MISSE-FF) Flight Facility, Phase I Briefing Chart Image

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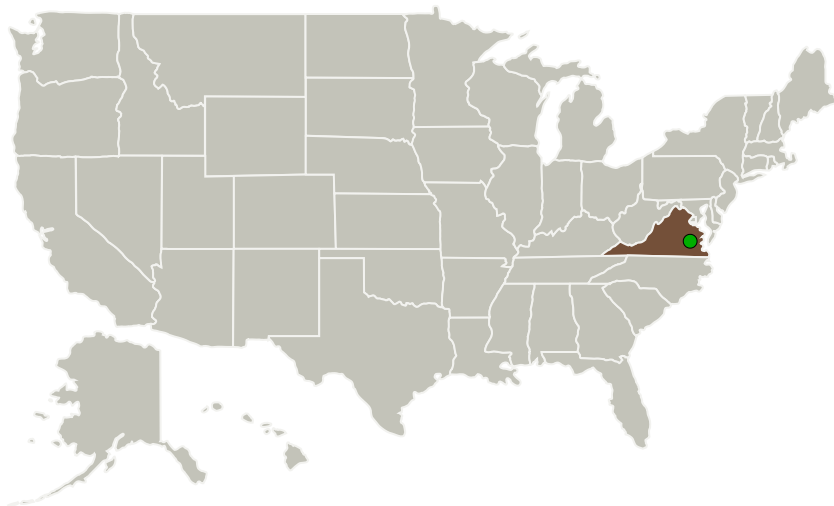
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Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

Primary U.S. Work Locations

Virginia

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

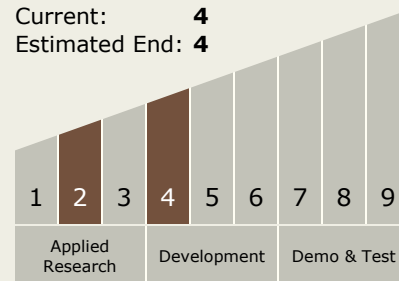
Carlos Torrez

Principal Investigator:

Michael Barnett

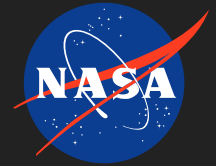
Technology Maturity (TRL)

Start: 2
Current: 4
Estimated End: 4

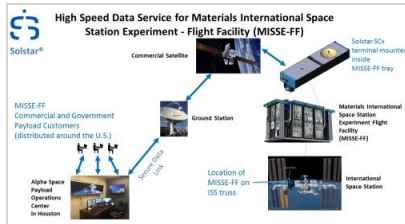


High Speed Data Capability to Increase the Utilization of the Materials International Space Station Experiment (MISSE-FF) Flight Facility, Phase I

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Images



Briefing Chart Image

High Speed Data Capability to Increase the Utilization of the Materials International Space Station Experiment (MISSE-FF) Flight Facility, Phase I Briefing Chart Image
(<https://techport.nasa.gov/image/134474>)

Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
 - └ TX05.2 Radio Frequency
 - └ TX05.2.4 Flight and Ground Systems

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System